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REMARKS

This paper is responsive to the Non-Final Office Action dated March 4, 2005. Claims 1-35 were examined. Claims 1 and 29 have been amended. Claims 22 – 28 have been canceled.

Interview Summary

Applicant appreciates the time taken by the Examiner for the Examiner Interview conducted on 1 July 2005. The participants were Lewis A. Bullock, Steven R. Gilliam, and David W. O'Brien. The participants discussed *In re Mayhew*, the prior art, and claims 1, 29, and 34. The participants discussed possible amendments to claims 1 and 29, and agreed that amending claim 1 to recite "synchronize" instead of "coordinate" would advance prosecution and emphasize the subject matter that is not disclosed or suggested in Farook. Applicant also agreed to make a similar amendment to claim 29. In addition, the participants agreed that recitation in claim 34 of "coordinating competing access to the shared object" sufficiently emphasized a distinction between claim 34 and Farook.

Rejections Under 35 U.S.C. §112

The Office has rejected claims 1-3, 7-10, 13, 14, 16 and 29-35 under both first and second paragraphs of 35 U.S.C. §112. The premise of the rejection under both paragraphs is that Applicant has not recited an essential element in the rejected claims. The Office relies on *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976) for support. However, *In re Mayhew* does not support the present rejections because 1) Applicant's specification discloses multiple example techniques (beyond those alleged to be essential) for implementing the subject matter of the rejected claims, and 2) the holding of *In re Mayhew* should be limited, especially in light of *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 54 U.S.P.Q.2d (BNA) 1915 (Fed. Cir. 2000), to the particular facts of the case, namely, clear teaching in the specification that a particular feature is critical.

Rejections under First Paragraph of 35 U.S.C. 112

Claims 1-3, 7-10, 13, 14, 16 and 29-35 are rejected under 35 U.S.C. §112, first paragraph as not being enabled. The Office states that these claims lack an essential limitation. The Office

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further alleges that an “essential limitation that the lock-free pointer operations use a synchronization primitive for incrementing and decrementing/modifying the reference count is critical to ensure that the system does not prematurely reclaimed [sic] the shared object by having an incorrect reference counter” (Office Action page 4, paragraph 4). The Office refers to Applicant’s specification to support this assertion about the absence of an essential element. However, the specification does not limit the described invention to using synchronization primitives for incrementing or decrementing reference count. To the contrary, the specification describes various techniques for implementing the described invention. For instance, the specification states at paragraph [1026] that “[o]ther realizations may employ other synchronization primitives or facilities such as those provided by transactional memory.” Hence, the specification does not limit lock free pointer operations to synchronization primitives, and provides example techniques that can be employed to modify reference count. Hence, Applicant respectfully submits that the claims do not lack an essential element and that rejection under 35 U.S.C. §112, first paragraph should be withdrawn.

Rejections under Second Paragraph of 35 U.S.C. 112

Claims 1-3, 7-10, 13, 14, 16 and 29-35 are rejected under 35 U.S.C. §112, second paragraph as being incomplete for omitting essential elements. The rejection of these claims under 35 U.S.C. §112, second paragraph flows from the rejections under the first paragraph, and fail for the same reasons as the first paragraph rejections. The Office bases these rejections on the same incorrect statement regarding absence of an essential element as stated above. Since it is clear from the above that the specification does not state any essential elements that are absent from the claims and that the holding of *In re Mayhew* is limited to a very narrow set of facts, which do not apply, Applicant respectfully submits that these rejections cannot be properly maintained and should also be withdrawn.

Limitation of In re Mayhew

Applicant respectfully submits that *In re Mayhew* has no authority on this matter. *In re Mayhew* is limited to matters with explicit statements in a specification that a particular element is critical or necessary.

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When the claim is supported by the patent's disclosure, is adequately distinguished from the prior art, and otherwise meets the statutory requirements of patentability, neither law nor policy requires that the claim contain all the elements described in the specification as part of the new machine or method. See *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 54 U.S.P.Q.2d (BNA) 1915 (Fed. Cir. 2000) (Newman, J., concurring)).

Rejections Under 35 U.S.C. §102

Claims 1-2, 7, 9, 29-30, and 33-35 are rejected under 35 U.S.C. §102(b) as being anticipated by "Managing Long Linked Lists Using Lock-Free Techniques" by Farook (hereinafter "Farook"). Applicant has previously indicated that Farook is inoperative as applied by the Office and therefore does not meet the requirement that a reference under 35 U.S.C. §102 be enabling. However, to further emphasize the distinction between Applicant's claims and Farook, Applicant has amended claims 1 and 29 to recite use of lock-free pointer operations to synchronize modification of reference counts. Claims 1 – 12 and 29 – 33 are allowable for at least this reason.

With regard to claim 7, Farook does not disclose or suggest "a destroy operation that decrements a reference count of a shared object identified by a supplied pointer value; and frees the identified shared object if the corresponding reference count has reached zero being inserted to zero" as recited in claim 7. The TryDelete operation, referred to by the Office Action, decrements a counter of a node that precedes the node being deleted. None of the operations in Farook actually decrement the counter of the target node.

Farook does not disclose or suggest any of Applicant's claims. For at least the reasons above, Applicant respectfully submits that the rejections cannot properly be maintained and that the claims are allowable.

Rejections Under 35 U.S.C. §103

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Farook. Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Farook in view of "Simple, Fast and Practical Non-Blocking and Blocking Concurrent Queue Algorithms" by Michael

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(hereinafter "Michael"). Claims 31 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Farook in view of "Garbage Collection: Algorithms for Automatic Dynamic Memory Management" by Jones (hereinafter "Jones"). Claims 3, 31, and 32 are at least allowable because they depend from corresponding ones of the allowable independent claims.

Allowable Subject Matter

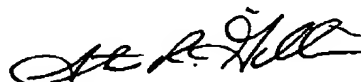
Claims 4-6, 11-12, 15, and 17-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciates the indication of allowable subject matter, but respectfully submits that the rejections of the base claims should be withdrawn.

Conclusion

In summary, claims 1 – 21 and 29 – 35 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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 Steven R. Gilliam	5-Jul-2005 Date

Respectfully submitted,



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